What is claimed is:

1. A method for conserving power in a positioning system receiver used in connection with a positioning system providing ranging signals, the receiver using the ranging signals to determine a state of motion of the receiver, the method comprising:

a) a step (32) of performing at least a predetermined number of solutions of the state of motion of the receiver using a filter solution based on a mix of models of the motion of the receiver, a mix that is varied from one solution to the next according to a predetermined criteria, and of providing the model mix used in each solution; and

b) a step (35) of adopting a partial duty cycle indicating a percentage of time selected receiver components are powered on, based on the mix of models used in successive solutions.

2. The method of claim 1, wherein the receiver includes a radiofrequency (RF) front end module and a baseband processor module and further wherein the selected components include the RF front end module.

3. The method of claim 2, wherein the selected components also include the baseband processor module.

4. An apparatus for conserving power in a positioning system receiver used in connection with a positioning system providing ranging signals, the receiver using the ranging signals to determine a state of motion of the receiver, the apparatus comprising:

a) means (15) for performing at least a predetermined number of solutions of the state of motion of the receiver using a filter solution based on a mix of models of the motion of the receiver that are varied from one solution to the next according to a predetermined criteria, and for providing the model mix used in each solution; and

b) means (18) for determining a partial duty cycle indicating a percentage of time selected receiver components are powered on, based on the mix of models used in successive solutions.

5. The apparatus of claim 4, wherein the receiver includes a radiofrequency (RF) front end module and a baseband processor module and further wherein the selected components include the RF front end module.

6. The apparatus of claim 5, wherein the selected components also include the baseband processor module.

7. A system, including: a transmitter for transmitting a ranging signal, and a ranging receiver for receiving the ranging signal and for determining a state of motion of the ranging receiver, the ranging receiver characterized in that it includes an apparatus for conserving power that in turn comprises:

a) means (15) for performing at least a predetermined number of solutions of the state of motion of the ranging receiver using a filter solution based on a mix of models of the motion of the ranging receiver that are varied from one solution to the next according to a predetermined criteria, and for providing the model mix used in each solution; and

b) means (18) for determining a partial duty cycle indicating a percentage of time selected ranging receiver components are

powered on, based on the mix of models used in successive solutions.

8. The system as in claim 7, further comprising a computing resource external to the ranging receiver, and wherein the apparatus communicates information to the computing facility via a wireless communication system and the computing facility uses the information in assisting the apparatus in performing at least a predetermined number of solutions of the state of motion of the ranging receiver using a filter solution based on a mix of models of the motion of the ranging receiver that are varied from one solution to the next according to a predetermined criteria.